

A composite image showing a space shuttle launching from the ground, ascending into the sky, and then orbiting Earth. The shuttle is depicted in white and yellow, with a large plume of fire and smoke at the base. The Earth's horizon is visible in the background, with a bright sun or light source creating a lens flare effect.

Capturing 50 Years of Human Manned Spaceflight Knowledge

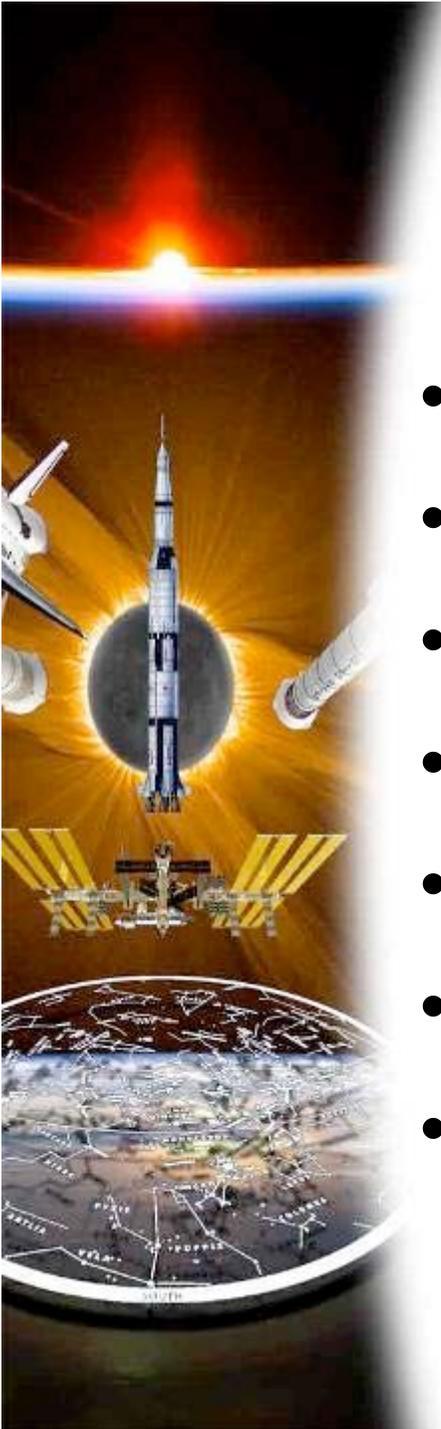
A circular constellation chart is overlaid on the bottom half of the slide. It features a grid of lines and various star patterns, with names of constellations and stars written in small text. The chart is semi-transparent, allowing the background image of Earth to be seen through it.

JSC/Brent Fontenot
Master's Forum #18
May 14, 2009

Expanding 50 Years of Experience to Chart New Horizons

Agenda

- The Start
- The Concept
- Key Elements
- Tacit Knowledge
- Explicit Knowledge
- Social Networking
- Collaborations

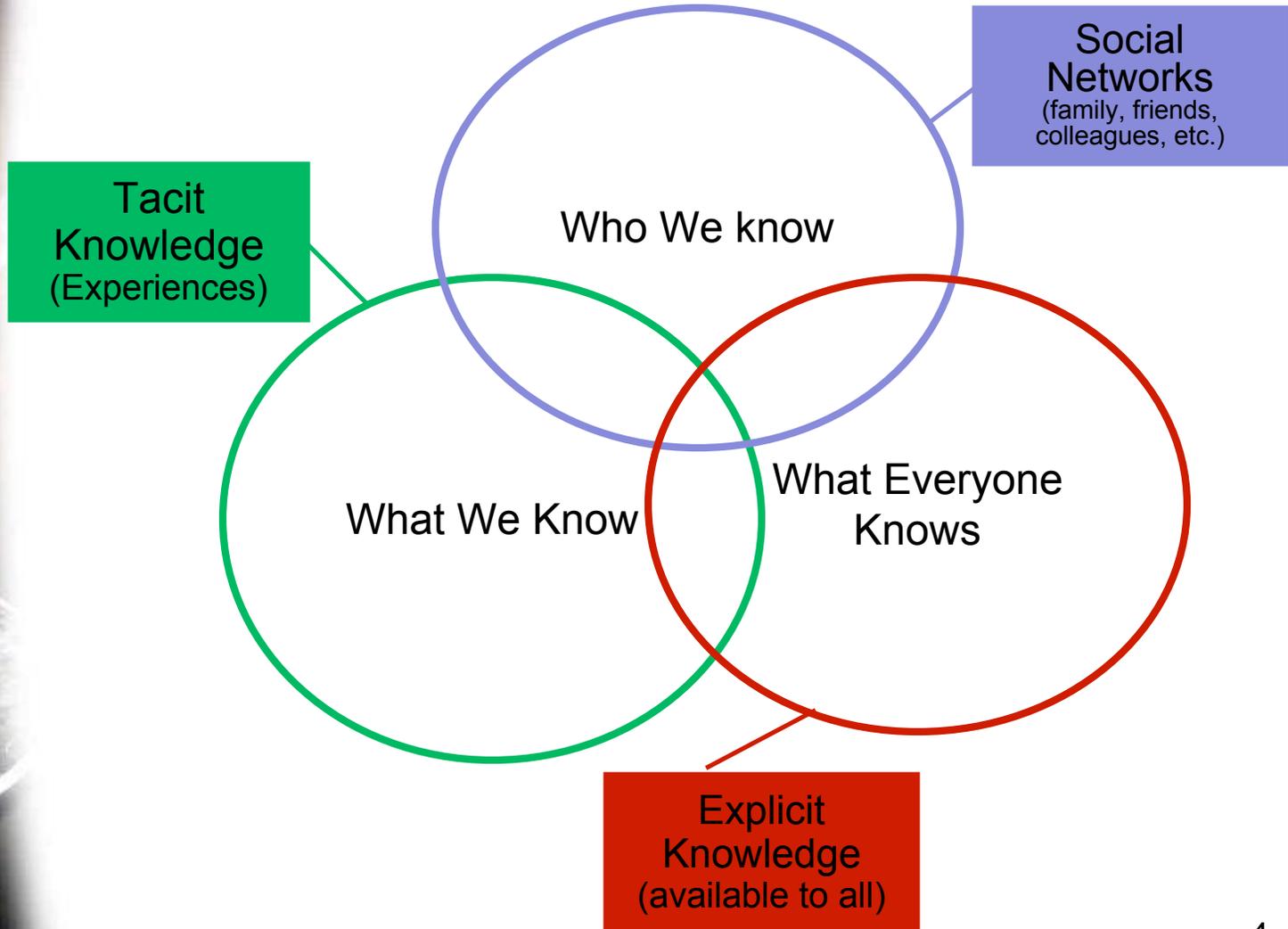


The Start

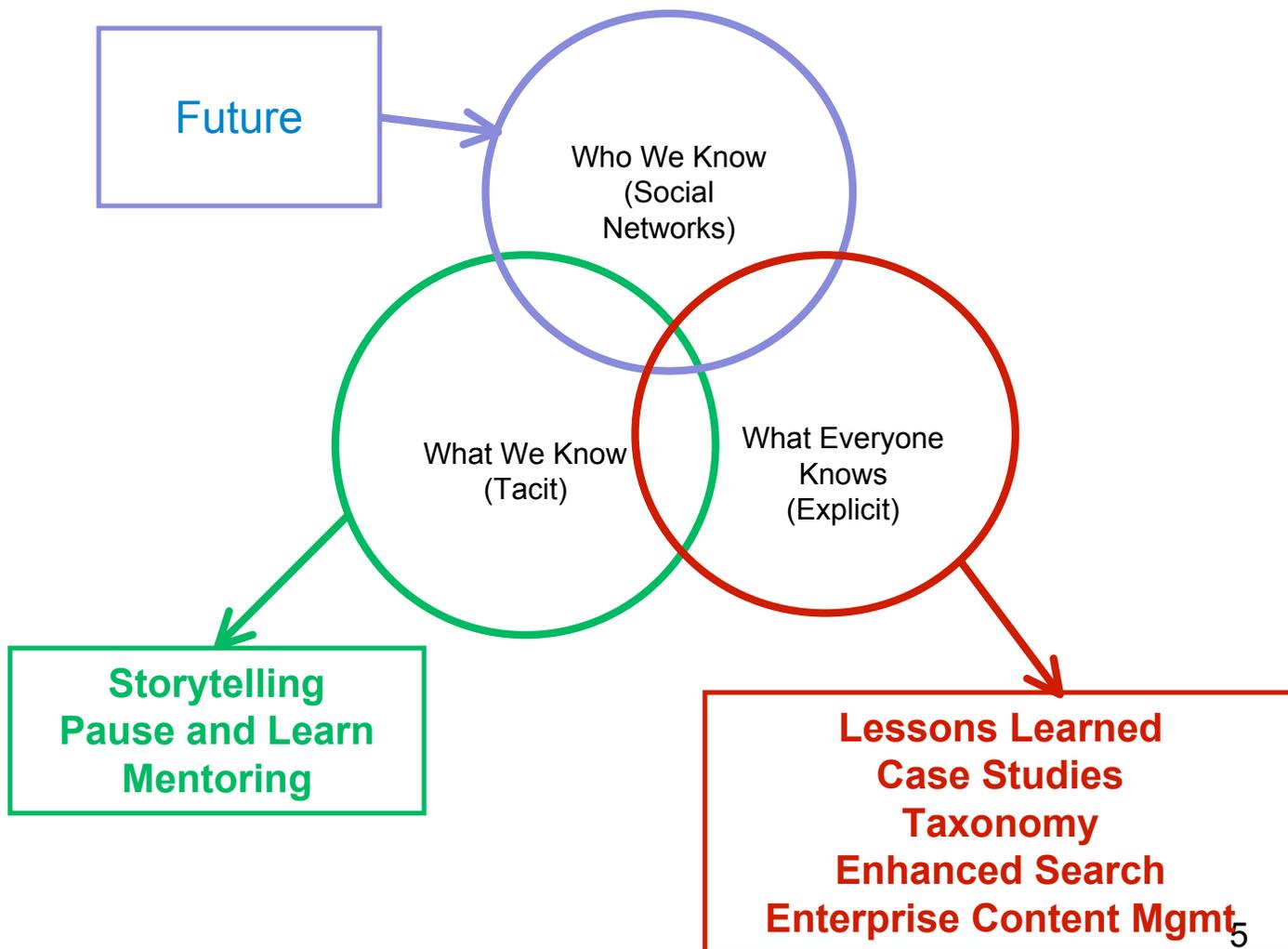
- JSC officially formalized the need and requirement for knowledge management in September 2006
 - Appointed the Center's first Chief Knowledge Officer
 - Direct report to the JSC Center Director
- Goals set out for the CKO were simple:
 - Develop and implement a Center-wide KM program to identify, capture, and make available fifty years of human manned flight knowledge for current and future generations



The Concept

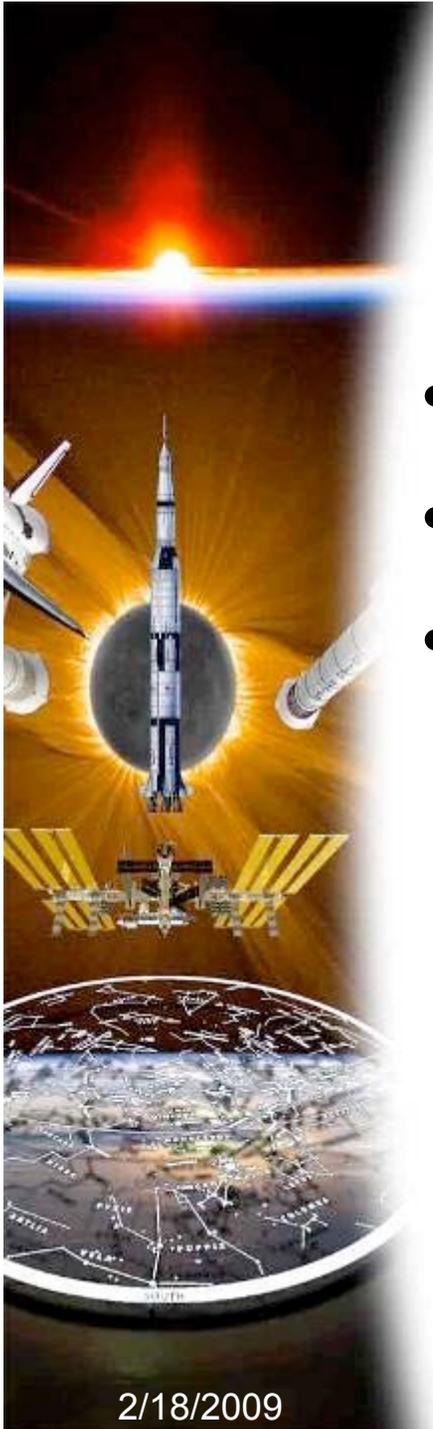


The Concept – Key Elements



Tacit Knowledge

- Storytelling
- Pause and Learn
- Mentoring Programs
 - Sponsored by HR
 - Both formal and informal



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Storytelling

- Created a JSC Storytelling Program
- Purpose is to transfer tacit knowledge from person to person
- Approach included
 - NASA Alumni League members
 - JSC Today Announcements
 - PM Challenge
 - Recommendations for topics
 - Recommendations for individuals or teams





First Storytelling Session

[Advanced Search](#)

Search

- ~43 People attended
- ~20 people were turned away
- ~100 People downloaded video
- Online Feedback has been very positive

JSC
KNOWLEDGE
O N L I N E

[Home](#) [Resources](#) [LLDB](#) [FAQ](#) [KM Labs](#) [Story Telling Videos](#) [Case Studies](#)

[STORY TELLING FEEDBACK](#)

[STORY TELLING VIDEOS HOME](#)

[MARCH 26, 2009](#)

Wisdom and Lessons Learned From the JSC Propulsion and Power Division



This first storytelling session will feature several retirees from the old Engineering Propulsion and Power Division (now the Energy Systems Division). The story tellers will be:

- [Guy Thibodaux](#) - NACA veteran and retired as chief, Propulsion and Power Division
- [Chester Vaughan](#) - chief of Propulsion and Power Division, and retired as ISS chief engineer
- [Norman Chaffee](#) - deputy chief of Propulsion and Power Division, and retired as deputy chief of the Automation, Robotics and Simulation Division
- [Bernard Rosenbaum](#) - senior engineer, Propulsion and Power Division - now the Energy Systems Division (still working)

[Audio of Session \(MP3\)](#)

[Video of Session \(WMA\)](#)

[Contamination, Compatibility, Cleanliness and Leakage \(DOC\)](#)

[Management Tips \(DOC\)](#)

[Review and Comments on Detonation of Space Shuttle Liquid and Solid Propellants \(DOC\)](#)

Link Presenters to Oral Histories



Storytelling Feedback

- “The knowledge and wisdom presented is invaluable. This presentation would be most valuable to the Orion Service Module (SM) propulsion team. I will encourage the Orion SM propulsion team to view these valuable lessons learned. The other people who need to hear this wisdom are those that manage the program and control the budget.”
- “I am glad I took the time off to attend this 'lessons learned' seminar. I believe that this is a good way for others to get lessons learned right from those who personally experienced and lived it. I am looking forward to the next seminar.”

Pause and Learn

- Participated in Pause and Learn (PaL) training from ESMD -- excellent
- Many JSC organizations use a form of PaL in their ongoing activities
- We are utilizing PaL or equivalent – the challenge is how effective we are infusing the knowledge back into workforce and making it accessible
- PaL was used by Center management after Hurricane Ike to capture LL and best practices



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Explicit Knowledge

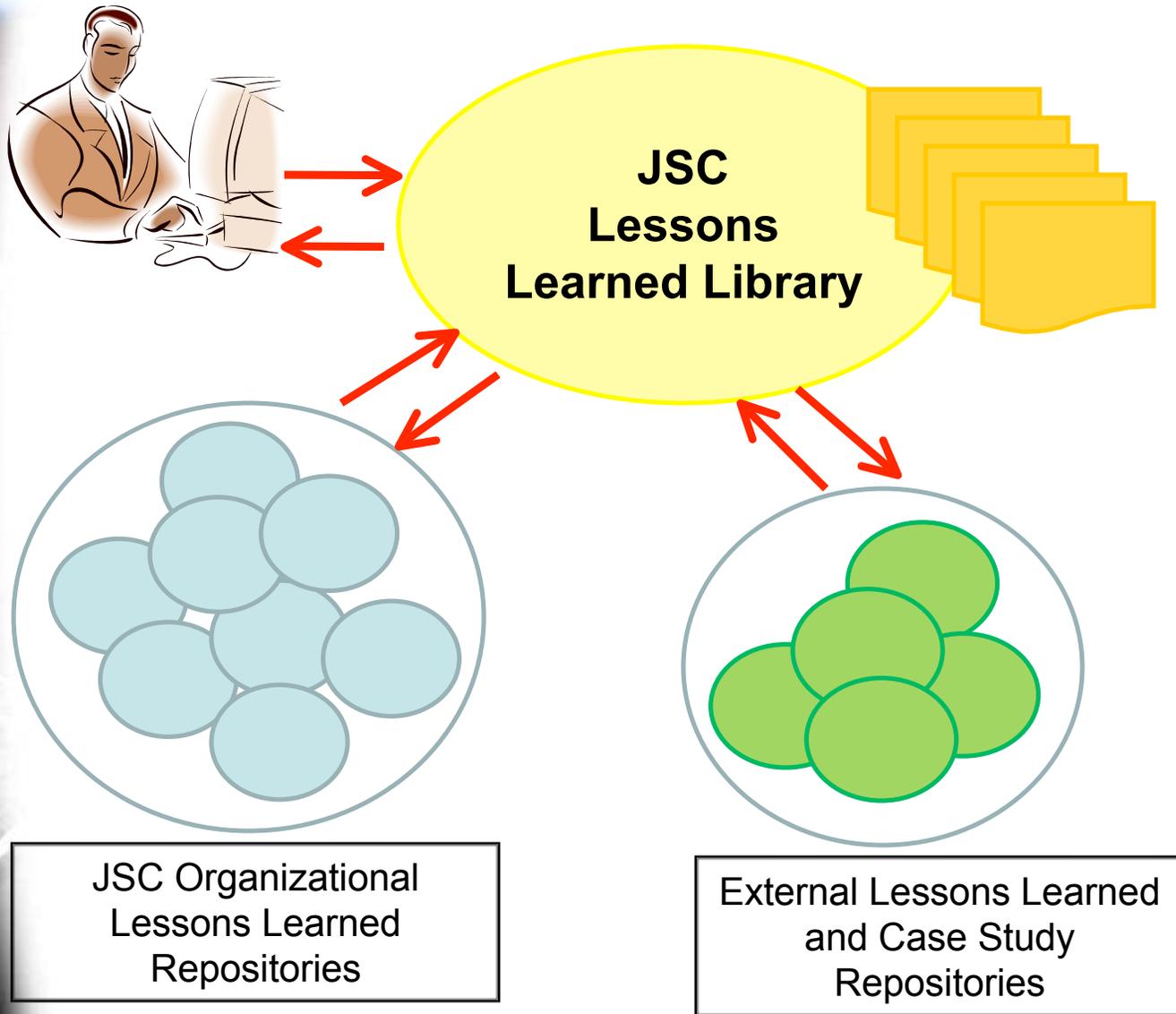
- Lessons Learned
- Case Studies
- Taxonomy
- Enhanced Search
- Enterprise Content Management



Lessons Learned



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NATIONAL AERONAUTICS
AND SPACE ADMINISTRATION

SEARCH

JSC LESSONS LEARNED DATABASE

Agency,
Program, and
JSC Lessons
Learned
Collections

Various
External
Individual
Reports

CREATE A LESSON

LOGIN

REGISTER

HOME

PROCESS FLOW

LESSONS LEARNED LIBRARY

RELATED LINKS

DLOR

LESSONS LEARNED FORUM

KNOWLEDGE ONLINE

CASE FILES

About this Database

Welcome to the Johnson Space Center Lessons Learned Database.

This database is the official vehicle for documenting lessons learned in various Johnson Space Center programs.

Currently the Lessons Learned process has undergone an extensive redesign. The new process can be found in JPR 2310.1 "The JSC Organizational Learning Program".

The ownership of the Lessons Learned Process is the Chief Knowledge Officer. The JSC Lessons Learned Process is composed of local lessons learned programs supported by and coordinated through the JSC Center Data Manager.

The lessons we have learned are captured in this database and are intended to be used as tools for improvement.



[LLDB RSS Lesson Feed](#)

Alerts Users of
New LL Entries

Curator: [Orlando Bongat](#)

Last modified: 11/21/2008
Responsible NASA Official: [Brent J. Fontenot](#)

[Site Administration](#)
[Web Accessibility and Policy Notes](#)

JSC Collections

[Acoustics Office Lessons Learned](#)
[Astromaterials Research and Exploration Science Web](#)
[Astronaut Office Postflight Recommendations](#)
[Catalog of Apollo Experiment Operations](#)
[Document Index System](#)
[ELLIS Lessons Learned System](#)
[EVA Lessons Learned](#)
[Facility Management and Operations Division Lessons Learned](#)
[Historical Lessons Learned](#)
[Johnson Technical Reports Server \(JTRS\)](#)
[JSC History Portal](#)
[JSC Library](#)
[JSC Senior Staff Resources](#)
[JSC Senior Staff Weekly Handouts](#)
[Lunar and Planetary Institute](#)
[Mission Operations Directorate Web](#)
[MOD Flight Safety](#)
[Operational Habitability Team](#)
[Orbital Space Plane Lessons Learned](#)
[Phase 1 Lessons Learned](#)
[Real-Time Rig Diagnostics Lessons Learned](#)
[Shuttle & ISS External Post Flight Reports](#)
[Surface Exploration Lessons Learned](#)

Agency Collections

[Academy Sharing Knowledge \(ASK\)](#)
[Lessons Learned Information System \(LLIS\)](#)
[NASA Digital Engineering Institute Lessons Learned](#)
[NASA Technical Reports Server \(NTRS\)](#)
[NASA Technical Standards Program](#)

Program Collections

[Apollo Lessons Learned](#)
[Benefits from Shuttle-Mir](#)
[ISS Payloads Lessons Learned](#)
[SKYLAB Lessons Learned](#)
[SSP Close Call Awareness Program \(CCAP\)](#)
[SSP Web](#)

Integrated via Google search engine

Continue to identify additional repositories

Case Studies

- Case Studies
 - Finding existing JSC case studies and including in JSC LL Library
 - Linking to Agency and other external sources off JSC LL Library
 - Advertise weekly a new case study in JSC Today, which reaches over 10,000 JSC employees
 - Sources: PBMA, NSC, APPEL, GSFC CKO, and Air Force Institute of Technology



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Making it Easier to Find What's Already Out There

- Taxonomy
 - Develop robust Center taxonomy structure for data tagging
 - Integrate into Center search system
- Enhanced Search
 - Identify 100's of existing repositories
 - Use taxonomy/thesaurus for refined results
- Enterprise Content Management
 - Repository for capturing knowledge at end of life for existing programs/projects
 - Repository for capturing knowledge from past programs/projects that has intrinsic value to current and future workforce



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Forward Work

- Social Networking Analysis
- Case Studies
 - Go beyond advertising what's available
 - Want to infuse the LL from the case studies through focus group discussions
 - Develop case studies from ongoing mishaps, technical issues, etc.
- Create ability for “JSC StoryCorps”
 - Short knowledge nugget capture from individuals
 - JSC capture or individual submissions



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Collaborations

- ESMD Risk and Knowledge Management
- Goddard Chief Knowledge Officer
- American Productivity and Quality Center
- Continual Benchmarking with industry, commercial, and contractor entities



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